CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/CEMENT/2016-17 Date: 12.09.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer**, Kodigehalli Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. K.R. Santhosh Kumar,** #04, 1st A Main, V. Pura, AVR Block, Virupakshapura Vidyaranyapura (P), Bangalore.
*NAME OF THE WORK	:	Improvements to Roads and Drains at Sahakaranagar B,C & D Blocks in Ward No.08, Kodigehalli Sub Division, BBMP, Bangalore.
*REFERENCE	:	EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	10.09.2016
PERIOD OF TESTING	:	10.09.2016 to 12.09.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	485 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

Note:

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⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

****

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Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/SAND-Gradation/2016-17 : 12.09.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.R. Santhosh Kumar,**
#04, 1st A Main, V. Pura, AVR Block, Virupakshapura Vidyaranyapura (P), Bangalore.

*** Name of Work** : Improvements to Roads and Drains at Sahakaranagar B,C & D Blocks in Ward No.08, Kodigehalli Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 10.09.2016

Date of Testing : 12.09.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	96.50	90-100	90-100	90-100	95-100
2.36	78.30	60-95	75-100	85-100	95-100
1.18	56.80	30-70	55-90	75-100	90-100
600 Micron	27.80	15-34	35-59	60-79	80-100
300 Micron	16.80	5-20	8-30	12-40	15-50
150 Micron	6.90	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/AGG/GR/2016-17 : 12.09.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.R. Santhosh Kumar,**
#04, 1st A Main, V. Pura, AVR Block, Virupakshapura Vidyaranyapura (P), Bangalore.

*** Name of Work** : Improvements to Roads and Drains at Sahakaranagar B,C & D Blocks in Ward No.08, Kodigehalli Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Sample Received on : 10.09.2016

Date of Testing : 12.09.2016

Total Wt. of Aggregates in gms= **5000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.00	95-100	85-100
20	37.00	30-70	0-20
10	13.00	10-35	0-5
4.75	3.00	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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T-2377

Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/CC Solid Block/2016-17 : 12.09.2016

TEST REPORT ON SOLID CONCRETE BLOCKS

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.R. Santhosh Kumar,**
#04, 1st A Main, V. Pura, AVR Block, Virupakshapura Vidyaranyapura (P), Bangalore.

*** Name of the Work** : Improvements to Roads and Drains at Sahakaranagar B,C & D Blocks in Ward No.08, Kodigehalli Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

Sample Received on : 10.09.2016

Date of Testing : 12.09.2016

Size of Blocks : 400mm x 200mm x 200mm

Cross Sectional Area : 80000 mm^2

Technical Reference : IS: 2185 (Part 1) - 2005

No. of Blocks Tested : 08

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS 2185 (Part 1) - 2005
1	Block 1	36.34	258.9	3.24	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	34.28	262.3	3.28	
3	Block 3	35.28	263.1	3.29	
4	Block 4	36.36	263.5	3.29	
5	Block 5	35.28	260.5	3.26	
6	Block 6	36.35	262.4	3.28	
7	Block 7	34.28	261.8	3.27	
8	Block 8	35.18	260.5	3.26	

AE-B

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T-2377

Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/Kerb stone/2016-17

12.09.2016

TEST REPORT ON CONCRETE CORE (KERB STONE)

* Name of Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Name of Agency	:	**Mr. K.R. Santhosh Kumar,** #04, 1st A Main, V. Pura, AVR Block, Virupakshapura Vidyaranyapura (P), Bangalore.
* Name of work	:	Improvements to Roads and Drains at Sahakaranagar B,C & D Blocks in Ward No.08, Kodigehalli Sub Division, BBMP, Bangalore.
Reference	:	EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Sample ID	:	Kerb Stone
Sample Received on	:	10.09.2016
Date of Testing	:	12.09.2016

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	82.00	0.403	2503.00	1.64	0.960	25.30	12.89	13.92	13.36	16.70
2	50.00	83.00	0.412	2528.07	1.66	0.965	26.20	13.34	14.41	13.91	17.38
3	50.00	84.00	0.418	2534.35	1.68	0.970	26.80	13.65	14.74	14.30	17.87

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Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/CUBE/2016-17 12.10.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.R. Santhosh Kumar,**
#04, 1st A Main, V. Pura, AVR Block, Virupakshapura Vidyaranyapura (P), Bangalore.

*** Name of the work** :Improvements to Roads and Drains at Sahakaranagar B,C & D Blocks in Ward No.08, Kodigehalli Sub Division, BBMP, Bangalore.

*** Reference** : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

*** Sample ID** : CC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{15}

Compressive Strength as on : 28th day

Sample Received on : 12.10.2016

AE-B 2

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	14.09.2016	12.10.2016	8.135	363.5	16.16
2	14.09.2016	12.10.2016	8.235	372.3	16.55
3	14.09.2016	12.10.2016	8.310	389.5	17.31

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Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/CUBE/2016-17 12.10.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.R. Santhosh Kumar,**
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*** Reference** : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

*** Sample ID** : CC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{15}

Compressive Strength as on : 28th day

Sample Received on : 12.10.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	14.09.2016	12.10.2016	8.180	362.8	16.12
2	14.09.2016	12.10.2016	8.298	368.5	16.38
3	14.09.2016	12.10.2016	8.326	390.2	17.34

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Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/CUBE/2016-17 14.10.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.R. Santhosh Kumar,**
#04, 1st A Main, V. Pura, AVR Block, Virupakshapura Vidyaranyapura (P), Bangalore.

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*** Reference** : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

*** Sample ID** : CC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{15}

Compressive Strength as on : 28th day

Sample Received on : 14.10.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	16.09.2016	14.10.2016	8.098	360.5	16.02
2	16.09.2016	14.10.2016	8.190	372.3	16.55
3	16.09.2016	14.10.2016	8.290	390.2	17.34

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Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/CUBE/2016-17 14.10.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

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*** Reference** : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

*** Sample ID** : CC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{15}

Compressive Strength as on : 28th day

Sample Received on : 14.10.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	16.09.2016	14.10.2016	8.108	365.8	16.26
2	16.09.2016	14.10.2016	8.298	382.6	17.00
3	16.09.2016	14.10.2016	8.315	392.2	17.43

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Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/CUBE/2016-17 14.10.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

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*** Reference** : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

*** Sample ID** : CC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{15}

Compressive Strength as on : 28th day

Sample Received on : 14.10.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	16.09.2016	14.10.2016	8.118	369.3	16.41
2	16.09.2016	14.10.2016	8.235	382.3	16.99
3	16.09.2016	14.10.2016	8.310	392.3	17.44

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Job No.: CTCE/BBMP/W.No.08/KRSK/CSR-09/140c/CUBE/2016-17 16.10.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.R. Santhosh Kumar,**
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*** Name of the work** :Improvements to Roads and Drains at Sahakaranagar B,C & D Blocks in Ward No.08, Kodigehalli Sub Division, BBMP, Bangalore.

*** Reference** : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

*** Sample ID** : Covering slab Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 16.10.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	18.09.2016	16.10.2016	8.119	485.5	21.58
2	18.09.2016	16.10.2016	8.230	495.8	22.04
3	18.09.2016	16.10.2016	8.325	510.2	22.68

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CIVIL-TECH CONSULTANTS AND ENGINEERS

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An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.08/KRSK/Tiles/2016-17 12.09.2015

TEST REPORT

Customer : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. K.R. Santhosh Kumar,**
#04, 1st A Main, V. Pura, AVR Block, Virupakshapura Vidyaranyapura (P), Bangalore.

Name of the Work : Improvements to Roads and Drains at Sahakaranagar B,C & D Blocks in Ward No.08, Kodigehalli Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/02/2016-17 Dated: 21.04.2016

Sample ID : Pre-Polished Designer Cement Concrete Tiles

Technical Reference : IS: 1237-1980 (Reaffirmed 2006)

No. of Samples Tested : 12 (Twelve)

I. DIMENSIONS TEST:

Sl. No.	Measured Dimension (mm)	Tollerence as per IS 1237-1980 (Reaffirmed 2006)	Thickness	Tollerence as per IS: 1237-1980 (Reaffirmed 2006)
1	300 x 300	300± 1mm X 300± 1mm	25.00	25 +5mm
2	300 x 300	300± 1mm X 300± 1mm	26.00	
3	300 x 300	300± 1mm X 300± 1mm	26.00	
4	300 x 300	300± 1mm X 300± 1mm	25.00	
5	300 x 300	300± 1mm X 300± 1mm	26.00	
6	300 x 300	300± 1mm X 300± 1mm	26.00	

AE-8

II. WATER ABSORPTION

Sl. No.	Water Absorption (% by Wt)	Average (% by Wt)	Requirement as per IS: 1237-1980 (Reaffirmed 2006)
1	2.6	2.35	The average percentage of water absorption should not exceed 10% when 6 full size tiles are tested.
2	2.1		
3	2.2		
4	2.4		
5	2.3		
6	2.5		

Note:

1.The report shall not be reproduced, except in full, without the written approval of the laboratory.

2.The results indicated above are based on the tests carried out on the samples received in the laboratory.

3. Any Query regarding the report must be reported within 30 days from the date of testing.

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